**BENJAMIN ACKAH**

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**DATA SCIENCE | ANALYTICS | MACHINE LEARNING**

**MOTIVATION**

I am passionate about solving business problems using Data Science, Analytics & Machine Learning. I systematically and creatively leverage my skills in Python, SQL, and statistical modelling to add tangible value to the team, the business, and end users. I provide actionable insights, automate workflows, and improve decision-making. I am constantly learning and always seeking to grow in a collaborative environment where data drives innovation.

I am detail-oriented and a proactive learner with strong communication skills. Comfortable working in fast-paced, cross-functional teams and translating data into business value.

**SKILLS & TOOLS**

* **Languages:** SQL, Python (Pandas, NumPy, Scikit-learn, Matplotlib, Seaborn), R
* **Tools & Platforms:** GitHub, Jupyter Notebook, Tableau, Power BI, MS Office, AWS, Streamlit, Dash Plotly
* **Machine Learning:** Linear Regression, Logistic Regression, Decision Trees, Random Forest, KNN, K-means, PCA, XGBoost
* **Data & Analytics Skills:** Data Visualization, Dashboard Development, ETL Pipelines, Feature Engineering, Statistical Modeling, A/B Testing

**WORK EXPERIENCE**

**Data Scientist**

*Saiket Systems (Remote - Intern), India* | Dec 2024 – Feb 2025

* Faced with slow, manual processing of 9,550+ restaurant records, I built a Python ETL pipeline (Pandas/NumPy) that cut processing time by 20% (from 5 hours to 4 hours per batch), enabled daily data updates (vs. weekly) for fresher insights and reduced validation errors by 15% through automated checks.
* To address constant ad-hoc requests for customer analytics, I developed a Power BI dashboard tracking 12+ metrics (LTV, churn risk, purchase frequency). This reduced manual report requests by 30%, shortened monthly strategy meetings by 40% (pre-baked insights) and uncovered a 22% upsell opportunity in dormant customer segments.

**Junior Data Analyst**  
*Nzema Manle Rural Bank, Ghana* | Jan 2019 – Mar 2021

* Built XGBoost churn prediction model (90% accuracy) analyzing behavioral patterns, then implemented targeted retention campaigns for high-risk customers (>75% probability) that reduced overall attrition by 12% and achieved 24% greater retention versus control group.
* Developed Python scripts using Pandas and SQL to automate monthly financial reports, eliminating 10+ hours of manual work weekly while reducing errors by 15%.

**Data & Mathematics Instructor**  
*Ahantaman Girls’ Senior High School, Ghana* | Sep 2021 – Jun 2023

* Developed Linear Regression models analyzing 3+ years of academic records (grades, attendance, engagement) that boosted students’ performance by 20% and identified at-risk students 6 weeks earlier through early warning alerts.
* **Built Python ETL pipelines (Pandas, SQL) to automate gradebook integrations, attendance reporting, and test data processing, achieving** **25% efficiency gain** (reduced weekly processing from 15 hours to 11 hours) and eliminating manual transcription errors.

**PROJECTS**

**Retail Price Optimization Using A/B Testing**

* Used A/B testing on retail sales data to evaluate the impact of discount strategies and bundle discount (10% off) across product categories to identify optimal pricing strategies for targeted promotions.
* Conducted exploratory data analysis using Pandas and Seaborn to understand pricing behavior and seasonal trends.

**NHS Call Optimization**

* Analyzed 14M+ call records using SQL and Python to optimize routing logic, reducing average call handling time by 32% (8 mins → 5.4 mins) and saving £120K annually in staffing costs.

**Customer Segmentation for Retail Growth | K-Means Clustering**

* Applied RFM analysis and K-Means clustering on 500K+ retail transactions to identify 4 customer segments, enabling targeted campaigns that simulated a 32% reduction in marketing costs and a 15% uplift in ROI.

**EDUCATION**

**MSc Data Science**

University of Sussex, UK | Sep 2023 – Sep 2024

**BSc Mathematics & Statistics**

University of Cape Coast, Ghana | Aug 2005 – May 2009

**COURSE & CERTIFICATION**

**Data Science Professional Certificate (*Data Science Infinity* – Ongoing)**

**Actionable Learnings:** Extracting and manipulating data using SQL. Application of statistical concepts such as hypothesis tests for measuring the effect of A/B Tests. Utilising Github for version control, and collaboration. Using Python for data analysis, manipulation & visualisation. Applying data preparation steps for ML including missing values, categorical variable encoding, outliers, feature scaling, feature selection & model validation. Applying Machine Learning algorithms for regression, classification, clustering, association rule learning, and causal impact analysis for measuring the impact of an event over time. Machine Learning pipelines to streamline the ML pre-processing & modelling phase. Deployment of a ML pipeline onto a live website using Flask and Heroku. Turning business problems into Data Science solutions.